H. CLAIMS

Claim 1 of 10

These claims, and the specifications and drawings before, define the invention as a new human computer interaction process comprised of the following steps and procedures: new techniques to organize and use data histories **(3.34)** to place data in context **(A1) (B.32) (B3.7) [Fig. 1 to 10] (1.1) (1.23) (2.3) (3.1) (3.3) (3.6 and 3.7) (3.10) (3.12 and 3.13) (3.18) (3.20) (3.37) (6.8) (7.2) (7.8 to 7.12) (7.28) (7.31) (7.33) (7.41) (8.2 and 8.3) (8.18) (9.2) (9.4) (9.11) (10.2)**, which provides a new form for data arrangements **(A1) (B1.2) (B1.5) (B3.2) (B3.7) (D1) [Fig. 2 to 10] (1.12) (1.24) (2.1) (2.7) (3.3 and 3.4) (3.9) (3.12) (4.5 and 4.6) (4.14) (7.2) (7.4) (7.14)**, and a new format for data descriptions **(B3.7) (2.2) (2.8) (3.20) (3.24)** used in shared dynamic time dependent complex data collections **(B1.4) (1.9) (3.7) (6.7) (8.5) (9.8) (9.17)**. The invention is used to draw the geometry of knowledge as it changes over time **(A1) [Fig. 3]**. The pace and record of these changes is represented by mathematical configurations, or "knots of information". When the space around these knots changes, so does the interpretation of the information itself **(1.2)**, likewise, when the interpretation changes the patterned "space around" will be changed. Mapping this back and forth process **[Fig. 6, 7 and 8]** over time **[Fig. 2, 3 and 4]** is one way the invention is used to interpret, manage and selectively preserve records of human knowledge. Data and data collections are mapped, organized, searched and interpreted using sets of "knowledge patterns" also called "filters" and "templates" **(B1.5) [Fig. 10] (2.3) (3.35) (7.40)**. A second "opposite" and "related" set of "display patterns" **(C1) (3.21) (3.23) (3.27) (7.1 to 7.50) (8.3) (9.1 and 9.2) (9.5) (9.10) (9.21)** are used to subsequently transform and simplify each data arrangement even further to be displayed through an evolving automatic language of light and sound **(7.5) (9.2) (10.2)**, textures **[Fig. 7] (1.23)**, colors **(7.28 and 7.29) (7.39) (7.43) (7.48)** and forms **(A1) (B1.5) (B3.2 and B3.3) (C1) (D1) [Fig. 6] [Fig. 10] (1.24) (2.1) (3.4) (3.9) (3.11) (3.13) (3.20) (7.2) (7.38 and 7.39) (7.43) (9.6) (9.13 and 9.14)** that continually update and evolve into new generations of knowledge and display patterns. People's knowledge **(A1) (B1 to B3) (C) [Fig. 1 to 10] (7.1 to 7.49)**, awareness, abilities to perceive, measure and question meaning in data and data arrangements is used to change and develop these mathematical patterns over time. The invention applies mathematical topology, algebra and new pattern generation and recognition techniques to digital information context to see how ideas and concurrent or conflicting views **(Claim 4)** become entangled, can be separated from their background, recognized differently from different points of view, interrelated, and influenced over time **(1.1)**. The invention is used to discuss new versus old ideas, draw new conclusions **(B1.1 and B1.2) (B3.2) (7.1) (7.30) (7.47) (8.16)**, create new mathematical relationships and new conceptual associations **(1.4)** perceived and used in the following states: as scale free configurations connecting and placing data components in data arrangements **(B1.2) (D1) [Fig. 6,7,8 and 10] (1.2) (3.18) (3.28) (6.6 and 6.7) (7.12) (7.18) (7.33 and 7.34) (7.36) (7.39 and 7.40) (8.3) (8.14) (8.18) (8.20) (9.4 and 9.5) (9.15)**; as symbols that map the history of hierarchy placements within each component's mathematical

description **(B1.2) (B3.4) (D1) [Fig. 10] (2.1 and 2.2) (3.7) (3.10 to 3.14) (3.18) (3.20) (3.23 to 3.26) (3.31 to 3.33) (3.37 and 3.38) (4.4) (4.9) (4.17) (7.1) (7.32) (7.35) (7.39 and 7.40) (8.3) (8.18) (9.3) (10.2)**; and as multidimensional waveforms used to distribute, streamline and consolidate these patterns and forms over time **(A1) (B1.2) (B1.5) [Fig. 10] (D1) (1.24) (3.11) (3.26) (4.1 to 4.18) (7.4 and 7.5) (7.39) (9.3).** Context Driven Topologies remain mathematically the same and recognizable regardless of whether they are being used in the configuration, symbol or waveform state. Context Driven Topologies in the symbol state **(Section 3)** are used to trace **(B1.4) (B3.2) [Fig. 6] (1.4) (3.7) (3.10) (3.12) (3.26) (5.1) (7.14)** histories of previous context and associations originating deep in the background **(A1) (1.5) (7.32)** to gently "push" **(7.1) (7.26) (9.21),** precisely align **(B1.4) (D1) [Fig. 8] (1.23) (3.3) (3.7) (3.31) (4.17) (9.5) (9.7) (10.2)** and lock the relative proportion **(A1) (B1) (B3) [Fig. 2, 6 and 7] (3.8) (3.27) (3.36) (4.14) (5.3) (6.7) (7.15) (7.34) (7.36)** of data and data arrangements into groups. Context Driven Topologies form a new kind of data collection composed of a new kind of objects and spaces used to map and understand complex data and data collections in both smaller groups **(A1) (B1.2) (B1.5) [Fig. 8] (D1) (1.4) (1.23) (2.3) (2.4 and 2.5) (2.7) (2.9 to 2.12) (3.2) (3.11) (3.15 to 3.17) (3.22) (3.28) (4.11 and 4.12) (5.4) (6.3) (6.7 and 6.8) (7.1) (7.6 and 7.7) (7.17) (7.31 to 7.33) (8.2 and 8.3) (8.6) (8.11 and 8.12) (8.19) (9.6) (9.11)** and larger overalls **(B3.6) (1.10 and 1.11) (2.3) (7.25 and 7.26) (7.28) (7.38) (9.1) (9.12)** than are currently available. Current data relationships, network topologies and data stores (even dynamic data stores) are typically in even arrangements with equal, practically interchangeable components geared for machine processing rather than the fluid, variable human imagination and investigation process. This is claimed by the inventor to be caused by an overdependence on electrical pulses. The inventions mathematical memory patterns are more suited to continuous patterned waveforms, similar to existing radio or cell phone technology, rather than electrical pulses. The invention is intended be independent of electricity and electrical pulses **(1.24) (Section 4) (Claim 2).** Existing technology does not allow data or data relationships to vary, characterize over time, or appear as one whole **(A1) [Fig. 3 to 5] 91.3) (3.5) (3.10) (4.3) (4.6) (5.7) (7.28) (7.32 and 7.33) (7.39) (8.3) (8.11) 8.24) (9.6).** The invention measures changes in mathematical patterns constructed for temporal reasons where aesthetics **(A1) (B3.5) [Fig. 6] (7.50) (8.13) (9.1),** proportion **(B1.4) (B3.6)(7.38) (9.5) (10.6),** "pace" or flow **(B3.2) [Fig. 2] (1.21) (3.11) (3.26) (4.12) (Section 6) (7.3) (7.5) (8.3),** proximity **[Fig. 6] (3.10) (6.2) (6.3) (7.7) (7.12)** and density **(1.24)** become typical, comparable measurements. Context Driven Topologies reside in a boundless abstract cloud, also called a "stateless space" **[Fig. 1] (3.27) (4.7 to 4.9) (4.14) (4.18) 6.3) (6.9) (7.45) (8.1) (8.3) (8.11) (8.18) (9.1 and 9.2)** accessible to any number of users. Mathematically perfect copies **(9.4)** are handed down from generation to generation. The intention of these claims, drawings, specifications and patent is to protect the core principles of the inventor's idea, the inventor's techniques, processes and steps disclosed, and to have greater control over ways the invention and its intended purpose is implemented in the future through the following steps **(C) [Fig. 6] (1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14).**

Claim 2 of 10

Because of the steps and processes throughout these drawings, specifications and Claim 1, Context Driven Topologies will initially be "powered" by use, similar to passing stories and songs across generations or propagating information across the internet **(B1.5) (B2.2) (D1) (1.21) (3.19) (8.17) (8.24)** therefore, the invention and the purpose of the invention, is independent of electricity **(1.24) (Claim 1)**. I further claim the inventions mathematical patterns, processes and uses for long term data curation and digital preservation **(9.1 to 9.22)** will also allow this organized and preserved knowledge to be independent of unstable media **(1.1 to 1.25) (Claim 2)** and changing natural and machine languages **(3.32)**. The intended life span of the knowledge and display patterns **(Claim 1)** interpreted and managed using the invented process is no less than 1,000 years **(7.12)**. It is critically important to know this claim, steps and processes include the human decision, evaluation and review process over time to selectively delete data and data arrangements that are not cohesive **(2.10) (3.9) (5.6) (7.28)**, valuable **(B3.7) [Fig. 5] (1.15) (2.6) (4.14) (7.2) (7.16) (7.19 and 7.20) (7.24 and 7.25) (7.33) (8.13) (10.10)**, true **(B2.2) (1.6 and 1.7) (2.4 to 2.6) (7.23) (7.47) (8.3)**, interesting **(1.5) (1.18) (7.3) (7.23) (8.13) (8.24) (9.9)**, attached to or sharing significant histories **(A1) [Fig. 6] (1.5) (1.21) (3.13) (3.25) (3.33) (4.18) (6.6) (7.11) (7.16) (7.32) (7.45) (8.3) (8.7) (8.9) (8.11) (9.15) (Claim 1)** with other data and data arrangements. Non-relevant, non-valuable, potentially misleading, out of date and incorrect information is removed from dynamic shared data stores through a shared continuous discussion and interpretation forum that uses a shared memory **(8.1 to 8.26)** area within the stateless space **(Claim 1)**. These actions and this process will streamline **(1.7)** complex data collections, automatically organize shared data stores **(1.7) (9.1)** and make complex collections easier for people to look through. I claim existing machine protocols and languages **(3.32)**, unstable media **(D1) [Fig. 6] (1.15 and 1.16) (2.5) (8.18) (9.2)** and the parade of machines currently accepted as an unfortunate, but irreconcilable, part of the information age **(1.25)** is unnecessarily divisive and detrimental to long term digital preservation and international research and communications across cultures and domains **(1.1 to 1.25)**. I further claim the year 2004 is the dawn of a new connected age **(10.14)** with incredible potential **(1.22)** where communications should not be hampered by electricity **(1.24) (8.17 and 8.18)**, media, changing machines **(7.3) (7.12) (8.3)** and different natural and machine languages **(3.32)**. The kind of data and data arrangements understood through Context Driven Topologies involve imagination **(B3.2) (1.13) (1.24 and 1.25) (2.10) (4.17) (7.27) (7.30) (9.2) (9.6)**, visualization **(B3.2) [Fig. 6] (1.21) (3.2) (3.23) (7.5) (7.8) (7.27) (7.44) (10.1) (10.8)**, and patterns that constructed in a place **(7.8)** where natural language is no longer useful, media is immaterial, and machine languages may be able to be changed to understand the expressions, reasons and investigations captured by the invention over time through the following steps **(1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14) (Claim 10)**.

Claim 3 of 10

Because of the steps and processes in Claims 1 and 2, I claim the invention will typically transform **(D1) (1.21) (3.21) (4.1 and 4.2) (4.4) (4.11) (4.17 and 4.18) (5.4 and 5.5) (7.1) (9.5) (9.21) (10.1) (Claims 1 and 2)** and present knowledge and knowledge objects differently than it was originally captured and recorded. The invention is a consistent method **(B3.2) (B3.6) (C1 to C7) (D1) (1.6) (2.9 and 2.10) (6.9) (7.12) (7.30) (7.44) (8.3) (9.4) (10.2) (10.11) (Claims 1 and 2)** for an unlimited **(7.37) (8.14)**, changing **(B1.4) (B1.5) (B3.2) [Fig. 6] (1.12) (1.20) (3.9) (4.1) (7.37) (7.40) (8.3) (9.2) (9.15)** series of users, media and machines to automatically **(D1) [Fig. 6] [Fig. 8] (1.4) (1.17) (2.1) (3.21) (4.13) (5.6) (7.7) (7.14) (7.26) (8.3) 98.12) (8.17) (9.4 and 9.5) (Claims 1 and 2)** and always defer to higher quality **(A1) (D1) (C7) [Fig. 6] (1.6) (1.11) (1.18) (3.27 and 3.28) (7.5) (7.37) (8.11) (9.4) (10.13)**, denser **(3.2) (7.26)**, more original **(B3.7) [Fig. 6] (1.19) (1.22) (2.3) (2.6 and 2.7) (2.10) (3.12) (3.24) (4.6) 4.12) (5.6) (7.9 and 7.10)) (7.37) (7.40) (7.42) (8.3) (8.18) (9.4) (9.8) (Claim 3)**, authentic **(2.2) (8.3) (8.24) (9.2) (9.14) (10.1)** original information held in a placeholder position **(2.6) (2.10) (3.14) (3.26) (7.21) (10.8)** accessed through the steps indicated in **(1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14)**. This claim includes priority addressing **(6.1 to 6.10) (7.7) (10.1)** and mapping to master recordings **(10.4)**; high resolution still and moving imagery **(7.5)**; partially interpreted **(B2.2) (B3.2) [Fig. 6] (1.23) (3.1) (7.18)** or raw results **(2.6) (3.24) (10.13)**; current locations **(9.13) (10.1) (10.6) (10.12)** of genuine events, objects and living beings; purely mathematical relationships and other ideas that can be represented, described, associated and derived with machines using the invented processes **(1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14)** to evaluate, maintain and preserve dynamic complex data collections over longer periods of time than a person, research group, entire field of study, or machine's lifetime.

> **Definition:** The word "Machine" as it is used throughout these claims and specifications is intended to mean a computer with a life expectancy of five to ten years - including an operating system or platform (ex. Mac or PC) that may be incompatible with other systems or platforms, various shared and specialized software with a life expectancy of one to three years, and an internet connection equal to current DSL or Broadband. The word "Machines" as it is used in these specifications is intended to mean advanced networks of machines that change and improve over one person, research group, or entire field of study's lifetime.

Claim 4 of 10

I claim the invention will eliminate redundant **(1.4) (3.12) (3.31) (4.15) (10.1)**, out of date, misleading and incorrect data and data arrangement from dynamic shared data stores by isolating and identifying non-original copies and non-meaningful variations within datasets using user defined similarity measures, also described throughout these specfications as "the same" **(B3.2) (D1) [Fig. 6] [Fig. 10] (1.4) (1.9) (2.3) (2.12) (3.3) (3.10) (3.12) (3.16) (3.18) (3.20) (3.30 and 3.31) (4.6) (4.18) (5.1 to 5.7) (7.1 and 7.2) (7.40) (8.2 and 8.3) (8.20)**

(9.4) (9.11) (10.1) (10.6) (10.14) to automatically mask, eliminate and conceal excess information using these related patterns to map back and forth **[Fig. 8] (3.10) (3.21) (7.13) (7.22) (7.26) (7.30) (8.3) (8.22) (9.15) (10.6)** until the redundant, misleading or incorrect information, ideas and techniques **(9.1 to 9.22)** are exposed and removed in both the users current data arrangement and across more levels over longer periods of time **(1.1 to 4.18)** and **(7.1 to 7.50).** These templates, also called the "knowledge and display patterns" **(7.1 to 7.4) (Claim 1),** act as known "opposite" or "rotated" topologies to expose and combat specifically redundant, false or misleading information **(1.7) (1.15) (2.5) (7.18)** as defined by people who understand and use this information by realistically accommodating concurrent and conflicting interpretations **(D1) (1.7) (2.5) (7.30) (10.4)** and getting these data descriptions and data components to influence and eventually cancel each other over time. I claim that people who create and interpret complex data and data arrangements understand this knowledge and these knowledge objects the most clearly and therefore should be the ones who decide and define which data and data arrangements are interesting, correct, unique and worth preserving for further contemplation using new knowledge and new machines in the future. These steps and processes are also referred to throughout these specifications as "streamlining" **(1.4) (1.7) (10.6).** The invention will cause data and data relationships to characterize **(B3.2) (3.25),** automatically become more organized, cluster **(B3.2) (3.25) (5.3) (7.12)** in dynamic shared data stores and generally become more authenticated as it is evaluated from more points of view over longer periods of time. For readers familiar with problems of redundant, misleading, out of date or incorrect information, the implications of this claim are obvious.

Claim 5 of 10

Because of the steps, processes and applications outlined in **(Claims 1 to 4),** the invention has a real world value **(B3.7) (1.25) (10.1 to 10.14)** by clarifying the roles of human creative and conceptual abilities versus the computational skills of machines as summarized in **(1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22).** The invention will help us **(1.23) (7.18) (9.4) (9.11) (9.21),** as individuals and a global society to decide **(2.8) (3.1) (6.6) (7.10) (7.35 and 7.36) (7.41) (7.44) (8.6)** which data and data arrangements are important, accurate and worth keeping **(3.12) (8.6) (8.20) (Claim 4).** New and conceptual associations are made by people and advanced networks of machines over time using Context Driven Topologies and the virtual "bridges" constructed following the steps in **(A1) (B1 to B3) (C1) (D1) [Fig. 1 to Fig 10] (1.1) (1.5) (1.10 and 1.11) (1.19 to 1.23) (2.2 and 2.3) (2.7) (3.5) (3.7) (3.11 and 3.12) (3.19 to 3.22) (3.24) (3.26) (3.28 o 3.31) (3.35) 94.14) (6.6 to 6.8) (7.1) (7.3 and 7.4) (7.9 and 7.10) (7.14 and 7.15) (7.18) (7.22) (7.26 and 7.27) (7.30 and 7.31) (7.33) (7.38 and 7.39) (7.49 and 7.50) (8.3 and 8.4) (8.9) (8.12) (8.20) (8.23 and 8.24) (9.1 and 9.2) (9.5 to (.8) (9.11) (9.13) (9.15 and 9.16) (10.5 and 10.6) (10.14)** and **(Claims 1 to 4)** These new bridges and the affect of the concurrent and conflicting viewpoints in **(Claim 4)** lead to a portrait of new ideas and changes to historical comprehension over time so people using the invention can also use these historical ideas and changes to decipher, comprehend, unravel and solve new kinds of problems. The primary use for

the invention today is to organize and interpret museum and library digitization **(1.6) (10.1)**; data generated by automated scientific experiments **(1.6) (10.4) (10.7 and 10.8)**; security **(8.3) (9.14) (10.6) (10.12)**; and to promote a clearer **(8.9)**, more meaningful understanding of each other, our environment, the natural world around us **(10.14)**, American **(2.5)**, global and future societies **(B3.5)**, and to stay current with the status of our individual and shared knowledge **(4.10) (4.14) (5.7) (7.21) (7.27) (7.30) (9.2)(Claim 4)**.

Claim 6 of 10

I claim the steps and processes enumerated summarized and enumerated in **(1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22)** and **(Claims 1 to 5)** will show users of the invention new kinds of objects that exhibit new kinds of associations, expressed through a new kind of mathematics **(B2.2) (B3.1) (D1) [Fig. 6] [Fig. 10] (2.1) (3.31) (6.9) (7.12) (7.34) (8.24) (9.11) (10.7 and 10.8) (10.14)**, a new language of sounds and images **(7.1 to 7.50)** and other techniques. I claim the way that data and data arrangements are configured, described, identified, derived and extracted from dynamic shared data stores **[Fig. 1] [Fig. 2]** is dependent on the users knowledge, the era which they live in, the machines and networks they are using and they way each user or group of users is looking at this data and data arrangements **[Fig. 6] (1.6) (1.20) (3.2) (4.12) (4.15) (5.3) (5.6) (7.19) (7.23) (7.27) (7.30) (7.38) (9.7) (10.6)**. The invention is not an abstract idea or mere arrangement of data, because of the invention, we will understand more about fluidity, shapes, objects and spaces **[Fig. 5] (9.13)**, we will also understand more, and be forced into new ways to draw, different elements becoming mixed or separated **(10.8)**. By comparing shapes, objects, spaces, arrangements, sequences, theories and ideas we do not understand **(3.11) (Claim 5)** with ideas and knowledge we do understand, the invention will allow users to draw some parallels and achieve clarification **(3.15) (6.9) (8.5)** and increased understanding that is currently not possible without the invention. I further claim that because of this increased understanding, Context Driven Topologies generated by the invention and perpetuated through people's investigations will become like objects **(3.12)** people will form attachments to **(B3.7) (2.8)** and begin to prefer certain patterns and forms over others which will affect human perception **(B3.5) [Fig. 10] (3.31)**, aesthetics **(7.23) (7.34) (7.50)**, and performance requirements for our media and machines particularly as enumerated in **(Sections 6 to 10)** and **(Claim 10 of 10)** below.

Claim 7 of 10

I claim that because of the better organization, better descriptions and more realistic annotation system disclosed throughout these specifications and Claims 1 to 6 above, the invention is a better, more continuous **(A1) (1.24) (3.2) (3.4) (3.34) (4.1 to 4.3) (4.16) (7.28) (7.40) (7.49) (8.13) (9.3) (9.6)**, fluid form **(D1) (1.24) (10.7 and 10.8) (Claim 6)** of metadata **(B3.2) (2.3) (2.9) (7.17) (7.27) (10.2)** and mapping comprised of the steps summarized in **(C) [Fig. 6] (1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14)**. I specifically claim that current metadata methods rely too heavily on text without providing mechanisms for

translation **(B2.2) (B3.4) [Fig. 6] (5.6) (10.1) (10.2)**, cultural interpretation **(1.20) (7.25) (9.1)**, or change and variation in word meaning **(B3.4) (10.2)** over time. I claim the invention is a more reliable **(1.18) (2.5) (6.9) (7.18) (7.20) (9.2) (9.14)**, accurate **(A1) (1.18) (2.2) (2.4) (2.6) (3.12) (4.14) (5.1) (8.3) (8.18) (9.1) (9.9) (Claim 5)** and subtle **[Fig. 6] (10.2)** method to communicate **(B3.4) [Fig. 7] (2.1) (3.13) (9.2) (9.11)** at concrete and abstract **(B1.4) (B3.5) (C7) (D1) (3.5) (3.8) (3.19) (4.18) (7.28) (7.38) (7.44) (8.4) (9.10)** levels which will enable our shared designs, mathematics, studies, investigations, stories and curiosities to advance and be expressed in ways we could not have imagined before **(Claim 8)**.

Claim 8 of 10

I claim the invention will give machines something to measure that is closer to the way people think, imagine and work. These measurements are comprised of the techniques, process and steps specified in **(B3.7) (C1 to C7) [Fig. 6] (1.1) (1.19) (1.23) (2.2) (2.6) (2.9 and 2.10) (3.6) (3.13) (3.15) (3.27) (6.9) (7.1) (7.8) (7.16) (7.21) (7.26 and 7.27) (7.30 and 7.31) (7.44) (8.3) (8.23 and 8.24) (9.2) (9.4) (9.11) (9.15) (10.4) (10.6)**

Claim 9 of 10

All of the claims, specifications, drawing, descriptions and steps are interdependent and related. The purpose of these claims, specifications, drawings, descriptions and steps is to particularly point out and distinctly claim the invention as it compares to other existing and future inventions **(B1 to B3)**, and to protect the right to develop the inventions future technologies **(Claims 1 to 10)**. Each of these claims is directly related to mathematical operation steps of a process as disclosed in **(A1) (B1.4) (B1.5) (B2.2) (B3.1) (C1) (D1) [Fig. 3] [Fig. 6] [Fig. 7] [Fig. 8] [Fig. 10] (1.1) (1.4 and 1.5) (1.17) (1.20 and 1.21) (1.24) (2.1 to 2.3) (2.13) (3.2) (3.7) (3.10 and 3.11) (3.18) (3.20) (3.26) (3.31) (3.34) (4.5) (4.9) (4.11 to 4.13) (4.15) (4.18) (6.2) (6.4) (6.9) (7.1) (7.3) (7.12) (7.15 to 7.18) (7.25 and 7.26) (7.31) (7.33 and 7.34) (7.39) (7.42 to 7.44) (7.47 to 7.49) (8.2 and 8.3) (8.18) (8.24) (9.1 to 9.3) (9.6) (9.11 and 9.12) (9.20 and 9.21) (10.7 and 10.8) (10.10 and 10.11) (10.14)**. These written descriptions, claims and drawings are intended by the inventor to be an enabling and complete disclosure to protect this idea and process both in the United States and Internationally **(C1 to C7) [Fig. 6]**. The practical applications **(10.1 to 10.14) (Claims 1 to 10)** of the computer-related invention disclosed are statutory subject matters. The invention, specifications, drawings, descriptions and steps claimed herein are intended by the inventor to be fully consistent with the Freeman-Walter-Abele test; statutory subject matters under Section 101 of the Patent Act; and current understanding of United States and International laws including 35 U.S.C. 101; 35 U.S.C. 102; 35 U.S.C. 103; 35 U.S.C. 112 including the 2nd and 6th paragraphs; 35 U.S.C. 154 including section (d) Provisional Rights as applicable; and is intended by the inventor to be in compliance with every statutory requirement and criteria including any binding precedents of the United States Supreme Court, the U.S. Federal Circuit; the Federal Circuit's predecessor courts; and international laws or courts not listed. The ideas, processes, and specific future technologies

disclosed throughout these specifications and claims were conceived of **(B2)** and belong exclusively to the inventor **(C)**.

Claim 10 of 10

I claim the invention is a better form of search, organization and identification for data, data arrangements, advanced networks of machines and for people. I claim the invention will be useful to investigate, create, and manipulate new and old ideas and map knowledge and historical comprehension over time across cultures and domains, and not only claim the practical applications indicated in **(Claims 1 to 9)** and **(10.1 to 10.4)**, but also claim that the invention in its current embodiment will prompt, inspire and enable additional techniques and future technologies to distribute, implement and expand the invention's usefulness through additional practical applications as indicated below in **(APPENDIX A)**. Tools, systems, and methods that may be claimed to have been prompted by the invention, its implementation and usefulness follow a mathematical and perceptual process summarized in **(1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22)** that includes but is not limited to: measurement, evaluation, testing, authentication, calibration, analysis, interpretation, exploration, vision, generation, conversion, translation, transformation, logic, purification, error and consistency detection, tuning, classification, registry, identification, recognition, composition, consolidation, masking, similarity measures, redundancy elimination, error detection and correction, visualization, design, imaging, modeling, simulation, drawing, recording, processing, compression, decompression, distribution, cryptography, navigation, communications, transmission, signaling, preservation, and other research, educational, entertainment or business products and practices that use techniques discovered using the invention. As indicated in Section **(C)** and **[Fig. 6]**, future techniques and technologies associated with the invention will be developed: by the inventor; with formal research partners; and in cooperation with other inventors and/or their research partners identified by searching patents and existing inventions related to the future technology that has been prompted, necessitated or inspired by the invention. Especially because the forms and patterns generated, perpetuated and interpreted through the invention reside in a stateless, constantly updating space without electricity or a capturing media - it is possible existing and new inventions in the enumerated classes (including subclasses which are not listed) below originally served a different purpose, or the existing subject matters and inventions within these classifications were conceived of and made for reasons that may initially seem unrelated, but in fact, are related because the invention will give us new ways to understand, new ways to look, measure, connect, break apart, demonstrate and control data and data arrangements using virtual forms and patterns that people may not have found ways to control using 'real' patterns, forms, languages and processes.

APPENDIX A

The classes below indicate most of the inventor's field of search. **Bold** indicates the inventors own assessment of the most appropriate classifications, *Italic* indicates future technologies in conceptual and/or early practical development by the inventor, plain are classifications that may have applications related to the invention's future embodiments.

US Classifications:

033 Geometrical Instruments
33/356 ·· Error indicator, preventor, or compensator
040 Card, Picture, or Sign Exhibiting
073 Measuring and Testing,
073/227 . Area-velocity integrating
073/498 . Adjusting means for reading structure
073/514.26 ... Optical sensor
073/514.27 .... Frequency or phase shift
073/527 . With input means
073/531 .. With transmission adjustment means
075 Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures
084 Music
084/464R . Producing color or light effects
084/600 . Musical tone generation
084/603 ....Sampling
084/607 .....Recursive algorithm
084/613 .....Chords
084/623 .....Time varying or dynamic fourier components
084/624 .....Modulation
084/625 .....Mixing
084/634 ....Accompaniment
084/635 ....Rhythm
084/637....Chords
084/645 ...MIDI
084/649 ...Note sequence
084/650 ....Accompaniment
084/656 .....Priority or preference circuits
084/660 .....Mixing
084/662 ...Expression or special effects
084/669 ....Chords
084/670 ...Constructional details
084/DIG9 Filtering
116 Signals and Indicators
128 Surgery
137 Fluid Handling
156 Adhesive Bonding and Miscellaneous Chemical Manufacture
181 Acoustics
178 Telegraphy
194 Check-Actuated Control Mechanisms
201 Distallation: Processes, Thermolytic
203 Distallation: Processes, Seperatory

204 Chemistry: Electrical and Wave Energy
209 Classifying, Separating and Assorting Virtual Solids
210 Liquid Purification or Separation
235 Registers for data bearing records which may include selective display
236 Automatic Temperature and Humidity Regulation (particularly museum object conservation)
250 Radiant Energy
250/341.7 ....With multiple sources
257 Active Solid-State Devices (e.g. Transistors, Solid-State Diodes)
257/195 ... Combined with diverse type device
257/282 ... Gate closely aligned to source region
257/531 .. Including inductive element
257/661 Superconductive contact or lead
260 Chemistry or Carbon Compounds
273 Amusement Devices: Games
313 Lamp and Discharge Devices
318 Motive Power Systems
318/573 ....With interpolating means
326 Digital Logic Circuitry
326/52 Exclusive Function
326/93 Clocking or Synchronizing or Logic States or Gates
327 Nonlinear Devices Circuits and Systems
327/13 . By shape
32715 ... With direction
327/16 .. Having feedback
327/17 .. With reference signal
327/24 .. Edge sensing
32739 . By frequency
327/41 ... With synchronous detection
327/42 ... Fixed frequency reference signal
327/54,67,87,146,323, 332,345,358,363 .... Having feedback
327/94 Waveform generation
327/100 Signal Converting, Shaping or Generating
327/106 Having stored waveform data
327/211 .....With clock input
327212 ...With clock input
327/291 . Clock or waveform generating
327/336 Specific Input to Output Function
327/336 . By integrating
327/346 . Exponential
329 Demodulators
330 Amplifiers
331 Oscillators
332 Modulators
333 Wave Transmission Lines and Networks
334 Tuners
340 One or more Devices to Control a Plurality of Results
341 Coded Data Generation or Conversion
341/4 . According to nonlinear function
341/8 . Real and complementary patterns
341/9 . Having combined (e.g., combination code) coding pattern
341/13 . Optical
341/14 .. Having optical waveguide
341/17 . Actuated by physical projection
441/28 .. For pictorial or ideographic characters (e.g. characters)
341/50 Digital code to digital code converters
341/51 . Adaptive coding

341/52 . To or from particular bit symbol
341/54 .. Bit represented by discrete frequency
341/55 . Substituting specified bit combinations for other prescribed bit combinations
341/56 . To or from multi-level codes
341/60 . To or from packed format
341/67 . To or from variable length codes
341/72 .. To or from delay modulation code
341/75 . To or from nonlinear codes
341/76 . To or from differential codes
341/78 . Programmable structure
341/81 . To or from interleaved format
341/82 . To or from mixed code formats
341/89 . Reversible converters
341/90 . To or from alphanumeric code formats
341/94 . With error detection or correction
341/106 . Coding by table look-up techniques
341/109 Stochastic techniques
341/111 Phase or time of phase change
341/113 .. Coarse and fine
341/125 . Sampled and held input signal with nonlinear return to datum
341/132 . Detecting analog signal peak
345/133 . With particular solid state devices
341/138 . Nonlinear
341/141 . Multiplex
341/142 . Converter is part of control loop
341/143 . Differential encoder and/or decoder
341/144 . Digital to analog conversion
341/145 .. Coarse and fine conversions
341/146 .. Serial conversion
341/147 .. Function generator
341/156 .. Coarse and fine conversions
341/157 .. Intermediate conversion to frequency or number of pulses
341/163 ... Recirculating
341/200 Quantizer
341/899 Miscellaneous
342 Communications, Directive Radio Wave Systems
345 Computer Graphics Processing, Operator Interface Processing, and Selective Visual Display Systems
345/2.2 .. Presentation of similar images
345/27 . Combined with storage means
345/53 .... Specific waveform
345/81 ... Optical addressing (e.g., photodetection)
345/93 ..... Redundancy
345/98 .... Specific display element control means
345/94 .... Waveform generation
345/162 .. Positional storage means
345/166 ... Optical detector
345/171 .. Having foreign language capability
345/175 .. Including optical detection
345/176 .. Transparent substrate having light entrapment capability
345/177 .. Including surface acoustic detection
345/178 .. With alignment or calibration capability
345/207 . Light detection means
345/208 . Waveform generator coupled to display elements
345/212 .. Regulating means
345/213 .. Synchronizing means
345/214 Controlling the condition of display elements

345/418 Computer Graphics Processing
345/419 . Three-dimension
345/420 .. Solid modelling
345/421 .. Hidden line/surface determining
345/422 ... Z buffer (depth buffer)
345/427 .. Space transformation
345/428 . Adjusting level of detail
345/440 . Graph generating
345/440.1 .. Real-time waveform display
345/441 . Shape generating
345/442 .. Curve
345/467 . Character generating
345/468 .. Character geometry processing
345/469 ... Character generation using control points or hints
345/469.1 .. Character border
345/472 and 660 ... Scaling
345/472.3 ..Calligraphic
345/473 . Animation
345/475. Temporal interpolation or processing
345/535 .. Memory arbitration
345/537 .. Data transfer between memories
345/538 .. Transfer between system memory and graphics display memory
345/541 . Shared memory
345/542 .. Unified memory architecture
345/549 .. Color memory
345/505 . Parallel processors
345/543 . Memory allocation
345/544 . Memory partitioning
345/546 ..Multi-format frame buffer
345/549 .. Color memory
345/551 .. Character memory
345/552 . Texture memory
345/554 . Multi-port memory
345/555 . For storing compressed data
345/559 . Register
345/561 . Logical operations
345/563 .. Mask data operation
345/564 . Addressing
345/565 .. Using memory for storing address information
345/567 ... Using decoding
345/568 ... Address translation
345/572 .. Address generator
345/581 . Attributes (surface detail or characteristic, display attributes)
345/582 .. Texture
345/585 ... Non-planar surface
345/586 ... Mathematically defined
345/588 ... Repeating pattern
345/589 .. Color or intensity
345/591 ... Color processing in perceptual color space
345/592 ... Transparency (mixing color values)
345/593 ... Color selection
345/594 .... Using GUI
345/595 .... Expert system or AI
345/597 .... Color
345/598 and 599 ..... Spatial
345/600 ... Color bit data modification or conversion

345/601 .... Using look up table
345/602 ..... Plural look up tables
345/603 .... Format change
345/606 .. Interpolation of attribute values across object surface
345/607 ... In perspective
345/611 .. Anti-aliasing or image smoothing
345/613 ... Subpixel processing
345/614 ... Pixel fragment
345/615 ... Convolving technique
345/617.. Contrast
345/619 . Graphic manipulation (object processing or display attributes)
345/621 ... Based on model of objects
345/622 .... Testing or using bounding shape
345/625 ... Based on image data
345/626 .... Masking
345/627 .... Non-rectangular array
345/629 .. Merge or overlay
345/631 ... Reducing redundancy
345/632 ... Placing generated data in real scene
345/633 .... Augmented reality
345/634 ... Image based
345/636 .... Character and graphics
345/637 .... Priority based
345/641 .... Fixed overlay pattern
345/642 .. Picking
345/643 .. Arithmetic processing of image data
345/645 ... Hierarchy of transformations
345/648 .. Affine
345/649 .. Rotation
345/650 ... Graphical user interface tools
345/651, 662 and 677 .... Alignment functions (e.g., snapping, gravity)
345/652 and 678.... Constrained manipulations (e.g., movement in less than all dimensions)
345/653, 664 and 679 .... 3D manipulations
345/655 and 681 ... Object based
345/656, 667 and 682 ... Image based (addressing)
345/657 .... By arbitrary angle
345/661... Graphical user interface tools
345/668 .... By arbitrary ratio
345/672 .. Translation
345/673 ... Averaging technique
345/686 ..... Memory addressing
345/687 ..... Smooth or continuous
345/691 .. Temporal processing
345/694 .. Spatial processing (e.g., patterns or subpixel configuration)
345/696 ... Changing of subpixel location over time
345/697 .. Including optical means
345/700 Operator Interface
345/703 . Cultural based
345/707 .. Adaptive to user skill level
345/708 .. Context sensitive
345/712 ... Topic roadmap or index
345/713 .... Hierarchical
345/716 . On screen video or audio system
345/717 .. Multiple diverse systems
345/721 ... Indexed control
345/731 .. Authoring tool

345/733 . For plural users or sites (e.g., network)
345/734 .. Interactive network representation of devices (e.g., topology of workstations)
345/736 ... Network managing or monitoring status
345/737 ... User navigation between devices
345/738 .. Network resource browsing or navigating
345/739 ... Selecting from a resource list
345/740 .. Remote operation of computing device
345/741 .. Access control or permission
345/746 ... Interface conversion
345/748 . User interactive multicomputer data transfer
345/749 .. Downloading remote executables
345/751 . Computer supported collaborative work between plural users
345/753 .. Computer conferencing
345/757 ... Virtual 3D environment
345/758 ... Chat room
345/760 . Mark up language interface
345/763 .. Graphical or iconic based (e.g., visual program)
345/765 .. Customizing multiple diverse workspace objects
345/767 .. Focus control of multiple diverse workspace objects
345/768 .. Translucency or transparency interface element (e.g., invisible control)
345/769 .. Data transfer operation between objects
345/771 .. Instrumentation and component modeling
345/772 ... Progress or activity indicator
345/774-777 Visual metaphors for various objects and indexing
345/781 .. Window or viewpoint
345/783 ... On-screen window list or index
345/786 .... Scroll tool (e.g., scroll bar)
345/787 ..... With content attributes on scroll tool
345/788 ... Layout modification
345/794 ..... Priority or overlap change
345/798 .... Combining moving and resizing operations
345/800 .... Resizing (e.g., scaling)
345/801 ..... Contained object scale change
345/802 ... Focus control
345/806 ... Window memory structure
345/807 .... Stored priority attribute
345/808 .. Pop-up control
345/809 .. Dialog box
345/810 .. Menu or selectable iconic array
345/816 ... Partial input lookup (e.g., partial string lookup)
345/817 ... Context location indication
345/821 ... Emphasis
345/825 ... Dynamically generated menu items
345/828 ... Partial menu display
345/829 .... Advancing to next menu item in the same menu
345/835 ... Selectable iconic array
345/836 .... 3D icons
345/837 .... Compound or aggregate icon
345/838 .... Thumbnail or scaled image
345/839 .... Imitating real life object
345/846 .. Non-array icons
345/847 ... Shortcut
345/848 .. Interface represented by 3D space
345/849 ... Individual object
345/850 ... Navigation within 3D space
345/853 .. Hierarchy or network structure

345/854 ... Navigation within structure
345/860 .... Selection emphasis
345/861 .... Dynamically changed appearance
345/862 ... Proximity detection
345/863 . Gesture-based
345/953 . Geometric processing
345/955 . Morphing
345/956 . Language driven animation
345/965 . For process control and configuration
345/967 ... Visual or iconic programming
345/968... Interface for database querying and retrieval
346 Recorders
346/20 Combined with clock
346/33A . Optical system
346/56 ... With discrete element as marker
346/57 .... Time-driven record receiver
347 Incremental printing of symbolic information
347/10 ... Drive waveform
347/12 ... Array
347/14 ... Response to a condition
347/15 ... Creating plural tones
347/19 .. Measuring and Testing
347/49 .. Modular
347/224 Light or Beam Marking Process
347/229 ... Synchronization of light with record receiver
347/239 ... Specific Light Modulator
347/241 ... Specific Optical Structure
347/246 ... Feedback of Light for Intensity Control
347/249 .. By Clock Deviation
347/250 .. Scan synchronization
347/255 .. Specific Light Modulator
348 Television
348/119 ...Program Control
348/518 .. Including compensation for transmission delays
349 Liquid Cells, Crystals and Elements
349/8 .. Plural light path projectors
351: Optics: Eye Examining, Vision Testing and Correcting
353 Image Projectors
353/1 Kaleidoscopic
353/33 .. Prism
353/34 . Plural projection paths with single light source
353/37 . Reflector between lamp and screen
353/38 Unitary plural refracting surfaces
353/99 . Plural
356 Optics: Measuring and Testing
356/71 Document pattern analysis and verification
356/138 Angle Measuring
356/141.1 .. with photodetection
356/152.1 .. with photodetection remote from source
356/153 . Alignment of axes nominially coaxial
359 Optics: Systems and Devices
359/328 . Harmonic generator
359/329 .. Third harmonic
359/332 . Optical waveguide type
359/616 Kaleidoscope
360 Dynamic Information Storage and Retrieval, with portions of 369

360/13 Record Editing
360/29 Modulating or demodulating
360/30 Frequency
360/31 Monitoring or testing the progress of recording
360/39 General processing of a digital signal
362: Illumination
363 Electric power conversion systems
363/17 ... Bridge type
363/49 . With starting arrangement
363/95 ... For inverter
363/98 ..... For bridge-type inverter
365 Static Information Retrieval
365/189.01 Read/Write circuit
365/194 .. Delay
365/203 . Precharge
365/205 . Flip-flop used for sensing
365/210 .... Reference or dummy element
367 Communications acoustic wave systems
367/7 Acoustic image conversion
367/11 . With memory means
367/13 Testing, monitoring, or calibrating
367/27 .. Time interval measurement
367/28 .. Amplitude measurement
367/30 ...Amplitude comparison
367/32 ...Frequency dependent determination
367/38 .. Signal analysis and/or correction
367/39 ... Random signal correlation
367/48 ...Phase
367/51 ... Dynamic timing correction
367/59 ... Compositing system
367/60 ... Special digital system
367/64 ... Optical processing
367/93 . Presence or movement only detection
368 Horology: Time measuring systems or devices
368/14 . Navigational instrument
368/21 Plural time zones
368/56 .. By signal frequency change
368/57 .. By signal amplitude change
368/58 .. By signal polarity change
368/68 . With intensity control of display
368/79 .. Optical
368/243 Signaling means
369 Dynamic Information Storage and Retrieval
369/5 . One of systems having plural connections
369/30.44 .....Of carousel library system
369/53.35 ... Signal error correcting or detecting
369/59.26 ... Energy producing device
370 Multiplex communications
372: Coherent Light Generators
375 Pulse or digital communications
375/138 . Time hopping
375/140 . Direct sequence
375/149 ... Having specific code synchronization
375/240.03 ... Quantization
375/240.18 .. Transform
378: X-Ray or Gamma Ray Systems or Devices

379 Telephonic Communications
380 Crytpography
380/38 . Frequency shift or inversion
380/42 . Data stream/substitution enciphering
380/59 Miscellaneous
380/206 .. Masking of synchronization signal
380/209 .. Masking signal selectively addressed
380/216 .. Image data converted to digital before modification
380/217 and 269 ...Having compression
380/221 .. By modifying synchronizing signal
380/263 ... Nonlinear or chaotic system
380/270 . Wireless communication
381 Audio Systems
381/63 . Reverborators
381/83 .. Feedback suppression
382 Image Analysis
382/106 . Range or distance measuring
382/107 . Motion of velocity measuring
382/108 . Surface texture or roughness measuring
382/113 . Reading maps, graphs, drawings or schematics
382/116 .. Using a combination of features
382/117 .. Using a characteristic of the eye
382/144 .. Mask inspection
382/148 ...At plural magnifications or resolutions
382/149 ...Fault or defect detection
382/151 ...Alignment, registration, or position determination
382/154 . 3-D or stereo imaging analysis
382/241 . Polygonal approximation
382/158 ...Network structures
382/159 . Trainable classifiers or pattern recognizers
382/160 .. Generating a standard by statistical analysis
382/168 Histogram processing
382/170 . With pattern recognition or classification
382/177 . Segmenting individual characters or words
382/180 . Region labeling
382/184 Pattern Recognition with separate timing or alignment marks
382/185 . Ideographic characters
382/190 . Feature extraction
382/191 .. Multispectral features
382/195 .. Local or regional features
382/199 ...Pattern boundary and edge measurements
382/203 ...Shape and form analysis
382/204 ...Topological properties
382/205 ... Local neighborhood operations
382/206 ...Global features
382/207 .. Waveform analysis
382/209 . Template matching
382/210 .. Spatial filtering
382/213 .. Using both positive and negative masks or transparencies
382/215 .. Using dynamic programming or elastic templates
382/216 .. At multiple image orientations or positions
382/219 ... Determining both similarities and differences
382/224 . Classification
382/225 .. Cluster analysis
382/225 Sequential decision process
382/227 ...With a multilevel classifier

382/229 . Context analysis or word recognition
382/235 . Substantial processing of image in compressed form
382/239 . Adaptive coding
382/240 . Hierarchy structure
382/243 . Shape, icon, or feature-based compression
382/247 .. Arithmetic coding
382/248 . Transform coding
3882/249 .. Fractal
382/251 . Quantization
382/256 . Object boundary expansion or contraction
382/260-265 . Filters
382/266 . Edge or contour enhancement
382/267 .. Minimize discontinuities in dot-matrix image data
382/268 .. Minimize discontinuities at boundaries of image blocks
382/275 . Artifact removal or suppression
382/277 . Transforming each dimension separately
382/278 . Correlation
382/279 . Convolution
382/280 . Fourier transform
382/282 . Selecting a portion of an image
382/283 .. Using a mask
382/288 ...Determining center of gravity or moment
382/291 .. Determining the position of an object
382/294 .. Registering or aligning multiple images to one another
382/298 .. To change the scale or size of an image
382/299 ... Raising or lowering the image resolution
382/300 ....Interpolation
382/302 . Multilayered image transformations
382/304 .. Parallel processing
382/305 . Image storage or retrieval
382/325 Miscellaneous

385 Optical Waveguides
385/122 Having nonlinear properties
385/141 Having particular optical characteristics

396 Photography

423: Chemistry of Inorganic Compounds

434 Education and Demonstration
434/236
434/322

451 Abrading

455 Telecommunications
455/445
455/560

463 Amusement Devices: Games

471 Multiple Controlled Elements

472 Amusement Devices

480 Interconnected Multiple Controlling Systems

505 Superconductor Technology

512: Perfume Compositions

530: Chemistry: natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof; All aspects of every part of Organic Compounds within the Class 532-570 Series

600 Surgery
600/27 . Sensory

700 Data Processing: Generic Control Systems or Specific Applications
700/5 ... Shared memory
700/50 .. Fuzzy logic

700/89 . Having specific algorithm
700/97 .. Design or planning
700/104 .... Knowledge based
700/125 .....Having a reference mark or pattern
700/163 .... 3-D sculpturing using nontracing prototype sensor
700/236 ....Data collection or reporting
700/246 ..Combined with knowledge processing
701 Data Processing: Navigation and Relative Location
701/28 .. Having image processing
701/221 ... with correction by noninertial sensor
702 Data Processing: Measuring, Calibrating or Testing
702/5 .. Topography
702/20 .. Gene sequence determination
702/21 .. Cell count or shape or size analysis
702/36 ... Location
702/66 .. Waveform analysis
702/67 ... Display of waveform
702/70 ... Waveform extraction
702/71 ... Waveform to waveform comparison
702/72 .... Phase comparison
702/73 .... Identification of waveform
702/77 ..... Using Fourier method
702/79 .. Time-related parameter
702/80 .. Specified memory location generation for storage
702/94 . Position measurement
702/124 . Signal generation or waveform shaping
702/126 .. Signal conversion
702/137 . Density
702/140 .. Within an enclosure
702/147 ... Specific mathematical operation performed
702/149 .. By distance or time measurement
702/167 .. Contouring
702/180 .. Histogram distribution
702/186 .. Computer and peripheral benchmarking
702/190 .. Signal extraction or separation
702/194 .... By mathematical attenuation
702/195 .... Subtracting noise component
703 Data Processing: Structural Design, Modeling, Simulation and Emulation
703/1 Structural Design
703/2 Modeling by Mathematical Expression
703/23 Emulation
703/27 . Compatibility emulation
704 Data Processing: Linguistics and Translating
704/1 Linguistics
704/7 .. Storage or Retrieval
704/9 . Natural Language
704/10 . Dictionary building
704/243 .. Creating patterns for matching
704/244 ... Update patterns
704/245 ... Clustering
704/255 ... Specialized models
704/256 .... Markov
704/257 .... Natural Language
704/258 . Synthesis
704/260 .. Image to Speech
704/266 .. Specialized model

704/268 .. Frequency element
704/269 .. Transformation
704/276 .. Pattern display
704/277 .. Translation
705 Data Processing: user interface specific to business
705/1 Automated financial or business practice
705/27 .. Presentation of an image or description of sales item
706 Data Processing: Artificial Intelligence
706/4 . Digital fuzzy computer
706/5 . Having function generator
706/11 Having particular user interfact
706/12 Machine learning
706/13 . Genetic algorithm
706/14 Adaptive system
706/21 .. Prediction
706/45 Knowledge Processing System
706/46 . Knowledge representation and reasoning technique
706/47 .. Rule-based reasoning
706/48 .. Having specific management of a knowledge base
706/49 .. Blackboard system
706/50 .. Having specific management of a knowledge base
706/51 . Non-monotonic reasoning system
706/52 .. Reasoning under uncertainty
706/53 .. Frame based reasoning system
706/54 .. Analogical reasoning system
706/55 .. Semantic network
706/56 .. Predicate logic or predicate calculus
706/57 .. Propositional logic
706/58 .. Temporal logic
706/59 . creation or modification
706/60 .. Expert system shell
706/61 .. Knowledge acquisition by a knowledge processing system
706/62 Miscellaneous
706/801 Related work
706/900 Fuzzy Logic
707 Data Processing: Data Structure, subclasses 1-10 for database specific user interface
707/1 Database or file accessing
707/2. Access augmentation
707/3 . Query processing
707/4 .. Query formulation
707/5 .. Query augmentation
707/6 .. Pattern matching
707/7 . Sorting
707/8 . Concurrency
707/9 . Privileged access
707/10. Distributed or remote access
707/100 Database schema
707/101 . Manipulating data structures
707/102 . Generating data structures
707/103R . Object oriented database structure
707/103Y . Object oriented database processing
707/103X . Object oriented database network
707/103Z . Object oriented database reference
707/104.1 . Application of data structure
707/201 . Coherency
707/203 .. Version management

707/204 .. Archiving
707/205 . File allocation
707/206 .. Garbage collection
707/500 Related work
707/501 and 501.1 Related work
707/503 Related work
707/505; 513 to 517; 526; 530 to 531 Related work
708 Arithmetic Processing and Calculating
708/111 .. Horological
708.208 .. Scaling
708/272 ... Memory used to store waveshape
708/304 ... Nonlinear
708/308 ... Multi-dimensional data
708/317 ... Wave
708/401 .. Multidimensional
708/403 ... Fourier
708/404 .... Fast Fourier Transform
708/405 .... Discrete Fourier Transform
708/424 ... Multidimensional data
708/426 ... Autocorrelation
708/424 ... Multidimensional data
708/441 ... Vector resolver
708/492 ... Galois field
708/493 ... Multi-valued
708/494 ... Incremental mode
708/506 .... Feedback
708/530 ... Error detection or correction
708/531 .... Parity check
708/532 .... Residue code
708/533 .... Sequential repetition
708/534 .... Plural parallel devices
708/553 ..... Prediction
708/622 .... Complex number format
708/632 .....Feedback
708/671 .... Comparison
708/801 . Particular function performed
708/819 .. Filtering
708/820 .. Transform
708/821 ... Fourier
708/822 .. Differentiation
708/823 .. Integrator
708/845 .. Function generation
709 Multicomputer data transferring
709/200 Transferring
709/201 . Distributed data processing
709/202 .. Processing agent
709/206 .. Demand based messaging
709/213 . Multicomputer data transferring via shared memory
709/215 .. Partitioned shared memory
709/217 . Remote data accessing
709/218 .. Using interconnected networks
709/219 .. Accessing a remote server
709/220 . Network computer configuring
709/221 .. Recongfiguring
709/223 . Computer network managing
709/224 .. Computer network monitoring

709/227 . Computer to computer
709/228 .. Session connection
709/229 .. Network resources access
709/231 .. Computer to computer data streaming
709/232 .. Computer to computer data transfer regulation
709/233 ... Transfer speed regulating
709/234 ... Data flow compensating
709/238 . Computer to computer data routing
709/243 .. Decentralized controlling
709/245 . Computer to computer data addressing
709/246 . Computer to computer data modifying
709/302 Related work
709/305 Related work
709/328 Related work

710 Data Processing: Input/Output
710/1 Input/Output Processing
710/4 .. Address data transfer
710/16 .. Characteristic discrimination
710/19 .. Status updating
710/33 . Data transfer specifying
710/36 . Input/output access regulation
710/62 . Peripheral adapting
710/100 Intrasystem connecting
710/105 . Protocol

711 Data Processing: Memory
711/6 . Virtual machine memory addressing
711/101 . Specific memory composition
711/110 ... Circulating memory
711/117 . Hierarchical memories
711/120 .... Parallel caches
711/121 .... Private caches
711/128 ... Associative
711/130 ... Shared Cache
711/136 .... Least recently used
711/137 ... Look-ahead
711/141 .. Coherency
711/147 . Shared memory area
711/148 .. Plural shared memories
711/149 .. Multiport memory
711/153 .. Shared memory partitioning
711/158 .. Prioritizing
711/165 .. Internal relocation
711/170 . Memory configuring
711/171 .. Based on data size
711/172 .. Based on component size
711/201 . Slip control, misaligning, boundary alignment

712 Processing architectures
712/11 ... Cube or hypercube
712/240 ... History Table
712/244 .. Exception processing

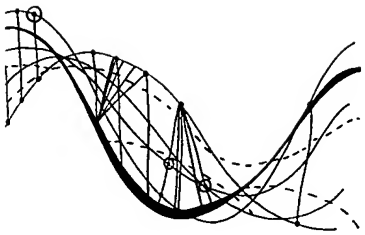
713 Support
713/1 System initializing
713/2 Loading initialization
713/100 Reconfiguration
713/600 Clock Control of Data

714 Error Detection/Correction and Fault Detection/Recovery

714/4 .... Of network
714/25 .. Fault location
714/39 .... Monitor recognizes sequence of events
714/43 .... Bus, I/O Channel
714/47 .. Performance monitoring
714/48 .. Error detection or notification
714/707 .. Synchronization control
714/764 .... Error correct and restore
714/765 .... Error pointer
714/798 . Error detection for synchronization control
715 Presentation Processing of Document (specifically, the display patterns)
715/500 Miscellaneous
715/500.1 Synchronization
715/ 501.1 Hypermedia
715/513 Structured document
715/514 Hierarchical control
715/518 . Spacing Control
715/520 . Area designation
715/521 . Boundary processing
715/535 .. Ideographic generator
715/907 . Hierarchical document with varying levels of detail
716 Design and analysis of semiconductor mask
716/20 . Mesh generation
716/21 . Pattern exposure
717 Software development
717/116 .. Object oriented
717/117 .. Declarative
717/124 . Testing or debugging
717/136 . Translation of code
717/148 ..... Just-in-time compiling or dynamic compiling
717/171 . Network
717/172 .. Including distribution of software
717/173 ... Including downloading
717/174 Software installation
717/175 . including multiple files
717/176 . Network
717/177 .. Including distribution of software
717/178 ... Including downloading
725 Interactive Video Distribution Systems
725/46 .... Based on personal preference, profile, or viewing history
725/50 ... Information updating
725/61 . Interactive program selection
757 Related work
757/3 Related work
757/10 Related work
757/102 Related work
757/106 Related work
902 Electronic funds transfer
968 Horology
968/8 .. Having a form other than a helix
968/17 .... Stop mechanism
968/47 ... Acting in both directions
968/92 .. Differentials
968/117 .. Adjustment Devices
968/149 .. Geometrical arrangement of the graduations
968/150 ... Varying from the normal closed scale

968/152 ...With several separate scales
968/201.. Different kinds of data indicating devices
968/205 ... successive steps by means of an energy source/freed at the determined moment
968/233 .. Stopping means
968/238 .. With course and fine setting of pre-selected times
968/252 . Stepwise or on determined value
968/285 . Circular calibers
968/290 . For extremely long running times
968/381 Special effects
968/414 Timepieces using astronomical observations
968/524 Driving mechanisms for master clocks
984 Musical Instruments
984/389 .. Using a common processing for different operations or calculations
D14: Recording, Communication or Information Retrieval Equipment
D18: Printing and Office Machinery
D24: Medical and Laboratory Equipment
International Classifications:
A61B 19/00; B24C 1/04; B25J; B44F; F21W; F21Y; G01B 11/26; G01C 1/00, 21/00; G01D; G01F 1/00; G01H 1/00, 1/12, 1/38; G01J 1/00; G01N 21/87, 33/00; G01P 15/08, 3/00; G01R 23/16; G01V 1/30; G02F 1/365; G03B 27/08, 21/00, 21/14, 21/26, 21/28; G03F; G04B 13/00G2; G04F; G04G; G05B 19/02; G05D; G06C; G06F 3/00, 7/00, 7/10, 7/16, 7/70, 9/44, 9/45, 9/445, 11/00, 12/02, 13/00, 13/10, 13/38, 15/00, 15/16, 15/18, 15/30, 15/57, 17/00, 17/21, 17/24, 17/27, 17/30, 17/60; G06G 9/44; G06K 9/00; G06M;
G06N 003/04, 5/00; 5/22; G06T 1/00, 9/20, 11/00, 11/20, 11/40; G06J; G06K 9/74; G07C; G07F 19/00; G08B; G09B 1/00; G09C; G09G 5/00; G10H 1/00, 1/06, 1/12, 1/38, 7/00; G11B; G11C 7/00; H01P; H02M 7/517; H03G 3/00; H03K 19/096; HO3M 5/00, 13/00; H04B 1/20; H04L 1/00, 7/00, 09/00, 27/26M1A, 1/00A1M, 1/00A3, 1/00A5, 1/00A7, 1/00B1, 1/00B2, 1/00B2B; H04M; H04N 1/00, 1/40, 5/04; H04Q
H07L 31/038.2; S01C; S01D 3C3, 3C5; S04; T01; T02; T03; T04; T05; T06; T07; U14; U21
Unless expressly permitted by the inventor the invention may not be used for International Classification W07: Military Equipment and Weapons; or US Classifications D22: Arms, Pyrotechnics, Hunting and Fishing Equipment; 086: Ammunition and Explosive-Charge Making; 089: Ordnance; 042: Firearms; 102: Ammunition and Explosives; 124: Mechanical Guns and Projectors; 149: Explosive and Thermic Compositions or Charges; and 473: Games Using Tangible Projectile.

– CONCLUSION OF CONTEXT DRIVEN TOPOLOGY SPECIFICATIONS –



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Filing Date: 03/18/2004
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Title of Invention: **Context Driven Topologies**

Drawings

DRAWING CONCEPTS [Reference 37 CFR 1.84 and 37 CFR 1.121]:

The drawings in this disclosure are set of illustrations intended to clearly identify and show the features, parts, processes, and actions that are unique to this invention. The subject matter of this invention is relationships between ideas and knowledge over time, therefore, drawing standards to indicate material composition do not apply. However, the organizing, filtering, and display techniques disclosed within the specification are designed to use information patterns, such as drawing standards of material composition and relationships between parts, to classify and retrieve drawings and other non-text data with related documents in the future. See the Claims and (5 of 7) Petition to the Examiner for more information.

The invention generates a limitless series of mathematical and perceptual patterns of infinite dimensions and variations, there is no one exact contour, appearance, or single image of trade knowledge to portray within these illustrations. However, when the invention is used in the future, the topology of each contour, appearance, and image of trade knowledge is very precise; recording and interpreting the changes and variations in these contours, appearances, and images of trade knowledge over time is the process that makes the invention unique.

Examples of these patterns are shown in the Drawings using a "wireframe" view showing only the underlying structure. See Specification **G**, Section **7,** Use of the Automatic Evolving Audio and Visual Language and Display Patterns for a detailed description of Context Driven Topologies as they are used to show more detailed relationships between parts, wholes, context, and incremental changes over time.

The views in Figures 8 to 10 show ideas, relationships, sequences, and referencing by using the content of the specification itself to illustrate Context Driven Topologies in their various states for the simple reason that this Specification is the only knowledge that the inventor and patent examiner definitely share. All of the Drawings, and especially Figures 8 to 10, are intended to be strongly defensive of the Claims.

Due to the multi-dimensional, non-linear, and dynamic nature of Context Driven Topologies versus two static dimensions on paper, the Drawings do not have a scale or upright position and were not created in plan, elevation, or section views as architectural drawings typically are. Nor is it possible to label which views are enlarged, within the outline of another, or to assess whether the views on any one page are standing in the same direction.

Nevertheless, there are clear relationships between views and the content of the specification overall as explained in F2 and indicated on each individual Drawing by a corresponding number in a circle. Each of the detailed drawing descriptions also references the text of the detailed disclosure as indicated by *(italic in brackets)*. If a map of these references was made, it would be a Context Driven Topology connecting specific drawings to specific text in a certain order. This map would form a record, the invention uses the topology of this record to identify, extract, and regenerate specific drawings and other non-text data with its associated text, or vice versa. See (5 of 7) Petition to the Patent Examiner for a proposal of how the invention may be used within the USPTO system to connect drawings with text and other purposes.

The wave forms in Figure 10C and the front page drawing are not possible to draw accurately in two static dimensions. The pace, rotations, densities, magnification, and relationships of these curved lines and amplitudes are not able to show the relative timing in detail because these are ink drawings fixed in one position at one size as one color and texture on a sheet of paper. A unique feature of these waveforms and the invention that non-matching waveforms can be controlled, synchronized in sections, and scaled to fit. Therefore, each waveform shown is not lettered or designated individually and there is no way to include vertical, horizontal or time axis without confusing the drawing. The drawing at the bottom of Figure 10C is the only whole formed by all of the previous partial views, it is unfolded and expanded in smooth dimensions that are most understandable to mathematicians and artists. It is this last drawing which really shows the invention and therefore is the inventor's preference for the front page drawing.

Center lines and projection lines could not be avoided in Figures 3, 4, 7, and 10B because they are essential to conveying these actions and methods of measurement.

The views in Figure 6 purposefully overlap because this drawing shows the path of an upcoming project with a group of theorists, mathematicians, artists, engineers, and other inventors that cannot be completely or accurately defined ahead of time. Please see www.contextdriventopologies.org for more information.

The most important deliverable of this upcoming project **[Fig.6](C)** is to generate a model of context driven relationships, special sequences, customized views, adjustable boundaries, and exploration paths by consolidating and carefully interpreting the relationships between thirty sets of original content and techniques (created by the project participants) by using the techniques disclosed within the specification.

It is the inventor's position that space is not wasted, the drawings are properly grouped and integrated with other parts of the specification including the Claims. Please notify the inventor if the USPTO does not agree.

37 CFR 1.84 [24 FR 10332, Dec. 22, 1959; 31 FR 12923, Oct. 4, 1966; 36 FR 9775, May 28, 1971; 43 FR 20464, May 11, 1978; 45 FR 73657, Nov. 6,1980; paras. (a), (b), (i), (j), and (l) amended, paras. (n), (o), and (p) added, 53 FR 47809, Nov. 28, 1988, effective Jan. 1, 1989; revised, 58 FR 38719, July 20, 1993, effective Oct. 1, 1993; paras. (c), (f), (g), and (x) revised, 61 FR 42790, Aug. 19, 1996, effective Sept. 23, 1996; paras. (a)(2)(i), (b), (c) & (g) revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997]
37 CFR 1.121 [48 FR 2712, Jan. 20, 1983, effective Feb. 27, 1983; revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997]

DRAWING ORIGINALS VERSUS DRAWING FILES

The original drawings are hand drawn in black ink using a "sharpie" ultra-fine permanent marker on arches brand acid free watercolor paper. The original hand drawings do not include reference numbers to the detailed descriptions in F2 and are not the same size, proportion, or layout to each other on the original sheets of paper as they are within the original and substitute specification. Therefore, the attached drawings and files (rather than the originals) are the most accurate.

As stated in (2 of 7) Substitute Specification, the Drawings have been renumbered to meet USPTO requirements (37 CFR 1.84 and 37 CFR 1.121) and are provided independently from the overall specification. The title, inventor's name, application number, and confirmation number have been centered on the top margin of each sheet along with the inventor's phone numbers if contact is needed to match the drawings with the proper application. See the notes above and content of the specification for more information regarding how the invention itself may be used to accomplish this task automatically.

The following drawings are attached to meet the requirements of 1.52, printed on 192g/M2 professional archival matte paper, and also provided as high resolution scans both "flattened" as .jpgs and "layered" as .psd files.

- The front page drawing (portion of Figure 10C, the last drawing)
- Figures 1 to 10 - each page corresponds to a file listed below (for example Figures 1 and 2 share a page, 10 A, B, and C each have their own page).

The scans are on the CD included with (2 of 7) Substitute Specifications The CD is titled

DMacP10 803 040

and is formatted for PC, but these files were created in Mac Photoshop. Please notify the inventor if the drawing files should be provided on a Mac formatted CD or online. The folders are named:

DMacPflattenedPhotoshop
DMacPlayeredPhotoshop

The files are named:

"DMacPFigures1and2"
"DMacPFigures3and4"
"DMacPFigure5"
"DMacPFigure6"
"DMacPFigure7"
"DMacPFigure8"
"DMacPFigure9"
"DMacPFigure10A"
"DMacPFigure10B"
"DMacPFigure10C"

The inventor's preference was for these Drawings to be inserted as full pages between F1Breif Description of the Drawings and F2 Detailed Description of the Drawings, but the Drawings may ordered with the text in the manner that is most convenient for the USPTO, and most recognizable to people familiar with reading patents. See (5 of 7) Petition to the Patent Examiner with a formal request to verify this context, image scaling, and overall appearance are correct for the Specification of Record in various publishing and storage formats.

1.121 These amendments and modifications to renumber and identify the drawings as specified above are directed by the inventor to be made. A higher quality version is provided both as hard copies and digital files, otherwise, there are no modifications to the original Drawings.

Date: 7.1.04

by: _____
Deborah L. MacPherson, Vienna VA

State / District of Virginia
City / County of Alexandria
The foregoing instrument was acknowledged before me this 1st day of July, 1999, 2004 by Deborah L MacPherson

Rowan Castrodale
Notary Public
My commission expires: 8-31-05

Notarized by Rowan Castrodale
Notary Public Commission expires 8/31/05